

DaimlerChrysler AG

Patent Claims

5    1. A method for operating a compressor (5) in the intake section (2) of an internal combustion engine (1), in particular of a motor vehicle, in which a status variable which describes the behavior of the compressor (5) is monitored and a regulating and/or 10 controlling intervention is carried out if the state variable exceeds or drops below at least one predefined or predefinable limiting value, characterized in that an output signal, generated for regulating and/or controlling the internal combustion engine (1), of an 15 air flow sensor (4) which is arranged in the intake section (2) is used as the state variable.

2. The method as claimed in claim 1, characterized in that the frequency and/or the amplitude of the output 20 signal are/is monitored.

3. The method as claimed in claim 2, characterized in that when a first limiting amplitude is exceeded, intervention is carried out differently than when a 25 second limiting amplitude which is greater than the first limiting amplitude is exceeded.

4. The method as claimed in one of claims 1 to 3, characterized in that when the limiting value is 30 exceeded, intervention in a regulating circuit of the compressor (5) is carried out in such a way that a setpoint charging pressure is reduced.

5. The method as claimed in one of claims 1 to 4, 35 characterized in that when the limiting value is exceeded, an exhaust gas recirculation valve (12) of an exhaust gas recirculation device (10) of the internal

combustion engine (1) is actuated in order to open it.

6. The method as claimed in claim 5, characterized in that the compressor (5) forms a component of an exhaust gas turbocharger (6).

7. The method as claimed in one of claims 1 to 6, characterized in that the compressor (5) forms a component of an exhaust gas turbocharger (6), and in that when the limiting value is exceeded, a guide of a device (21) of a turbine (8) of the exhaust gas turbocharger (6) is actuated in order to open the guide vanes.

15 8. The method as claimed in one of claims 1 to 7, characterized in that when the limiting value is exceeded, the injection quantity of the internal combustion engine (1) is reduced.

20 9. An internal combustion engine, in particular of a motor vehicle,

- having an intake section (2) in which a compressor (5) for generating charging air and an air flow sensor (4) for determining an output signal which correlates to the intake air flow are arranged,
- having an engine control unit (16) which communicates with the air flow sensor (4) and uses the output signal to control and/or regulate the internal combustion engine (1),
- 30 - having a compressor unit (15) which regulates and/or controls the compressor (5) as a function of a state variable which describes the behavior of the compressor (5),

characterized in that the compressor control unit (15) communicates with the air flow sensor (4) and uses the output signal of the air flow sensor (4) to control and/or regulate the compressor (5) as a state variable.